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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/722,531 | 11/28/2003 | Akira Hamamatsu | 520.43302X00 | 7610 |
| 20457 | 7590 | 02/28/2006 | | |
| ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873 | | | EXAMINER STAFIRA, MICHAEL PATRICK | |
| | | | ART UNIT 2877 | PAPER NUMBER |

DATE MAILED: 02/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/722,531

Applicant(s)

HAMAMATSU ET AL.

Examiner

Michael P. Stafira

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-9, 11 and 13 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 14 is/are rejected.
- 7) ☒ Claim(s) 4-6, 10, 12 and 15-17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

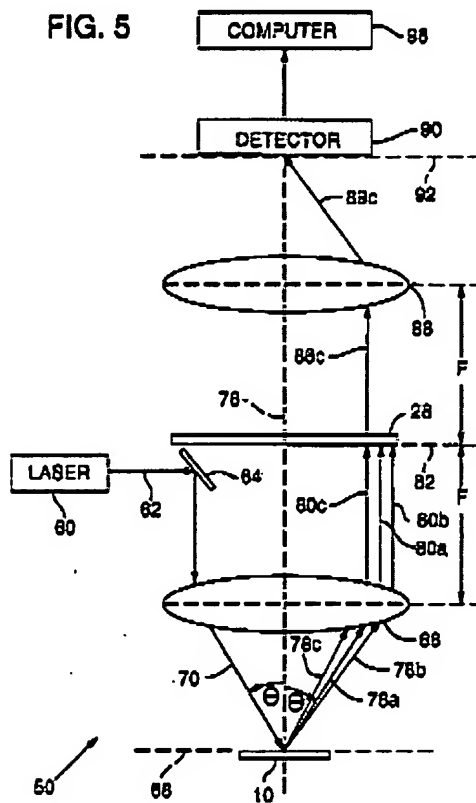
3. Claims 1, 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin ('674).

Claim 1

Lin ('674) further discloses an illumination optical system (Fig. 5, Ref. 60) which illuminates light to an object (Fig. 5, Ref. 10) under inspection; a detection optical system (Fig. 5, Ref. 90) which detects light reflected from said object (Fig. 5, Ref 10) and converts the detected light into an image signal; a spatial filter (Fig. 5, Ref. 28) which is provided in said detection optical system to selectively shield diffracted light pattern coming from a circuit pattern existing on the object by combining light-shielding points of minute dots state (Col. 8, lines 39-60); an arithmetic processing system (Fig. 5, Ref. 96) which processes the image signal detected by said detection optical system (Col. 8-9, lines 61-7);

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Lin ('674) discloses the claimed invention except for a monitor. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Lin ('674) with the monitor since it was well known in the art that a monitor provides visual indication of the data, therefore allowing a user to manually look at the data so as to input threshold data which increases the ability to respond to different conditions during manufacturing and therefore reduces defects in the end product.



Claim 3

Lin ('674) discloses the spatial filter is provided by printing a Fourier transformed image of the circuit pattern as the diffracted light pattern to selectively shield (Col. 8, lines 39-60).

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin ('674) in view of Maeda et al. ('498).

Claim 2

Lin ('674) substantially teaches the claimed invention except that it does not show a three dimensional stage. Maeda et al. ('498) shows that it is known to provide a three dimensional stage (Fig. 1, Ref. 2) for an surface inspection apparatus for detecting defects. It would have been obvious to combine the device of Lin ('674) with the three dimensional stage of Maeda et al. ('498) for the purpose of providing a stage which can adjust the object so that the entire surface can be inspected with the proper illumination.

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lin ('674).

Claim 14

Lin ('674) discloses illuminating light (Fig. 5, Ref. 60) on an object (Fig. 5, Ref. 10) under inspection; detecting light (Fig. 5, Ref. 90) reflected from said object (Fig. 5, Ref. 10) and converting the detected light into an image signal by a detection optical system (Col. 8-9, lines 61-7); selectively shielding (Fig. 5, Ref. 28) diffracted light patterns coming from repetitive circuit patterns existing on the object (Fig. 5, Ref. 10) using a spatial filter (Fig. 5, Ref. 28) provided in the detection optical system, said spatial filter combining light-shielding points of

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minute dots state (Col. 8, lines 39-60); arithmetically processing (Fig. 5, Ref. 96) the image signal detected by said detection optical system (Col. 8-9, lines 61-7).

Lin ('674) discloses the claimed invention except for a monitor. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Lin ('674) with the monitor since it was well known in the art that a monitor provides visual indication of the data, therefore allowing a user to manually look at the data so as to input threshold data which increases the ability to respond to different conditions during manufacturing and therefore reduces defects in the end product.

Allowable Subject Matter

6. Claims 7-9, 11, 13 are allowed over the prior art of record.
7. Claims 4-6, 10, 12, 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 7, the prior art fails to disclose or make obvious an inspection apparatus having a detection optical system comprising a Fourier transform lens which Fourier transforms diffracted light coming from said circuit pattern of said object, and an inverse Fourier transform lens which inverse Fourier transforms light coming through said spatial filter, and in combination with the other recited limitations of claim 7. Claims 8-9, 11, 13 are allowed by the virtue of dependency on the allowed claim 7.

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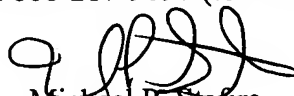
Response to Arguments

9. Applicant's arguments with respect to claims 1, 2, 14 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Stafira whose telephone number is 571-272-2430. The examiner can normally be reached on 4/10 Schedule Mon.-Thurs..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Michael P. Stafira
Primary Examiner
Art Unit 2877

February 15, 2006